In the Claims:

Please amend claims 1, 2, 4 and 6-10, add new claims 11-13, and cancel claims 3 and 5 without prejudice or disclaimer, as indicated in the following listing of claims, which replaces all previous versions.

1. (Currently Amended) Method for forming a strained Si layer ~~on a substrate (1),~~ comprising:

formation of an epitaxial SiGe layer [[(4)]] on a monocrystalline Si surface layer of a substrate, the substrate including a support layer and a buried silicon dioxide layer, the monocrystalline Si surface layer residing on the buried silicon dioxide layer,

~~formation of said strained Si layer by epitaxial growth of said Si layer on top of said epitaxial SiGe layer (4), said Si layer having a strained state due to said epitaxial growth, characterized in that~~

~~said substrate (1) is a Silicon-On-Insulator substrate comprising a support layer (1), a buried silicon dioxide layer (BOX) and a monocrystalline Si surface layer (3), said method further comprising:~~

ion implantation of said Si surface layer [[(3)]] and said epitaxial SiGe layer [[(4)]] to transform said Si surface layer [[(3)]] into an amorphous Si layer [[(3B)]] and a portion of said epitaxial SiGe layer [[(4)]] into an amorphous SiGe layer [[(5)]], a further portion of said epitaxial SiGe layer [[(4)]] being a remaining monocrystalline SiGe layer [[(6)]],

said amorphous Si layer [[(3B)]], said amorphous SiGe layer and said remaining monocrystalline SiGe layer [[(6)]] forming a layer stack [[(3B, 5, 6)]] on said buried silicon dioxide layer [[(BOX)]], ~~with said amorphous Si layer (3B) being adjacent to said buried silicon dioxide layer (BOX)~~

depositing a silicon dioxide capping layer on said remaining monocrystalline SiGe layer,

bonding the silicon dioxide capping layer to a silicon dioxide surface layer of a second substrate and thereafter removing said support layer and said buried silicon dioxide layer by etching.

2. (Currently Amended) Method ~~for forming a strained Si layer on a substrate (1)~~ according to claim 1, ~~characterized in that said method~~ further comprising ~~comprises~~ patterning of said layer stack [[(3B, 5, 6)]] for forming active parts of a MOSFET structure.

3. (Cancelled).

4. (Currently Amended) Method ~~for forming a strained Si layer on a substrate (1)~~ according to claim 1, ~~characterized in that said method~~ further comprising ~~comprises~~:

re-crystallizing of said amorphous Si layer [[(3B)]] and said amorphous SiGe layer by a solid phase epitaxy [[(SPE)]] regrowth process at an interface between said remaining monocrystalline SiGe layer [[(6)]] and said amorphous SiGe layer [[(5)]],

said amorphous Si layer [[(3B)]] being transformed into an epitaxial strained Si layer [[(9; 9B)]] and said amorphous SiGe layer [[(6)]] being transformed into a re-grown crystalline SiGe layer [[(8; 8B)]].

5. (Cancelled).

6. (Currently Amended) Method ~~for forming a strained Si layer on a substrate (1)~~ according to claim 1, characterized in that said strained Si layer [[(9; 9B)]] is a gate channel in a MOSFET structure.

7. (Currently Amended) Method ~~for forming a strained Si layer on a substrate (1)~~ according to claim 4 [[1]], characterized in that an annealing temperature during said solid phase epitaxy [[(SPE)]] regrowth process is substantially below 600° C.

8. (Currently Amended) Method ~~for forming a strained Si layer on a substrate (1)~~ according to claim 1, characterized in that said Si surface layer [[(3)]] has a thickness of less than 10 nm.

9. (Currently Amended) MOSFET structure comprising source, drain and gate, wherein said gate comprises a gate channel consisting of a strained Si layer ~~(9; 9B); said strained Si layer (9; 9B) being~~ manufactured by a method in accordance with claim 1.

10. (Currently Amended) Semiconductor device comprising at least one MOSFET structure in accordance with claim 9 [[1]].

11. (New) Method for forming a strained Si layer comprising:

forming an epitaxial SiGe layer on a monocrystalline Si surface layer of a substrate, the substrate including a support layer and a buried silicon dioxide layer, the monocrystalline Si surface layer residing on the buried silicon dioxide layer,

ion implantation of said Si surface layer and said epitaxial SiGe layer to transform said Si surface layer into an amorphous Si layer and a portion of said epitaxial SiGe layer into an amorphous SiGe layer, a further portion of said epitaxial SiGe layer being a remaining monocrystalline SiGe layer, said amorphous Si layer, said amorphous SiGe layer and said remaining monocrystalline SiGe layer forming a layer stack on said buried silicon dioxide layer,

pattering said layer stack,

depositing of a silicon dioxide capping layer on the patterned layer stack,

re-crystallizing said amorphous Si layer and said amorphous SiGe layer, said amorphous Si layer being transformed into a strained Si layer and said amorphous SiGe layer being transformed into a re-grown crystalline SiGe layer.

12. (New) Method according to claim 11, further comprising removing the re-grown crystalline SiGe layer by etching.

13. (New) Method according to claim 11, further comprising forming the patterned layer stack into active parts of a MOSFET structure.